## ABSTRACT OF THE DISCLOSURE

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A multi-stage vacuum pump includes a plurality of casings connected in series and each casing defining a respective compression chamber, a plurality of partition plates each set in between each two casings. When compressed by rotors at shafts in one compression chamber, compressed air passes through the air path formed in the corresponding partition plate to the next compression chamber for further compression, and finally compressed air passes to the last compression chamber through the air path formed in the last partition plate. Because the invention is designed to let compressed air directly pass through the air path in each partition plate, the outer diameter and volume of the multi-stage vacuum pump can be minimized to reduce the weight and the manufacturing cost.